

I claim:

1. A method of treating an unoccluded pulmonary vein comprising:

assessing a condition of said unoccluded pulmonary vein;

5 deploying a therapeutic device comprising a stent into the pulmonary vein;

allowing said therapeutic device to remain in said pulmonary vein so as to change said condition of said pulmonary vein.

2. A method of treating an unoccluded pulmonary vein comprising:

10 evaluating a physiologic state of said unoccluded pulmonary vein;

delivering a therapeutic device to said unoccluded pulmonary vein;

15 deploying said therapeutic device comprising an endoprosthesis into the pulmonary vein;

retaining said therapeutic device in said pulmonary vein for a duration sufficient to treat said pulmonary vein.

3. A method of treating an unoccluded pulmonary vein comprising:

20 evaluating the electrical conduction activity of a patient's heart;

deploying a therapeutic device comprising a circuit interrupting structure into the pulmonary vein;

allowing said therapeutic device to remain in said pulmonary vein so as to modify the conduction activity of said patient's heart.

4. The method of claim 1, wherein the deploying of said stent
5 includes expanding the stent against the walls of said pulmonary vein.

5. The method of claim 2, wherein the deploying of said endoprosthesis includes placing the endoprosthesis within the pulmonary vein so that it securely engages the wall of the
10 pulmonary vein.

6. The method of claim 3, wherein the deploying of said circuit interrupting structure includes placing the circuit interrupting structure within the pulmonary vein so that it securely engages the wall of the pulmonary vein.

15 7. The method of claim 1, 2, 3, 4, 5 or 6, further comprising the step of providing the therapeutic device with a surface comprising a low-resistivity material.

8. The method of claim 1, 2, 3, 4, 5 or 6, further comprising the step of providing the therapeutic device comprising a low-
20 conductivity material.

9. The method of claim 1, 2, 3, 4, 5 or 6, further comprising the step of delivering the therapeutic device percutaneously.

10. The method of claim 1, 2, 3, 4, 5 or 6, further comprising delivering the therapeutic device to the pulmonary vein
25 percutaneously through the left atrium.

11. The method of claim 1, 2, 3, 4, 5 or 6 further comprising delivering the therapeutic device to the pulmonary vein percutaneously through the right atrium.

12. The method of claim 1, 2, 3, 4, 5 or 6 wherein the deploying of said device includes implanting said device at the ostium of the pulmonary vein.

13. The method of claim 1, 2, 3, 4, 5 or 6, wherein the
5 therapeutic device has a surface comprising a metal selected from the group consisting of platinum iridium alloys, mp35n, titanium, nitinol, and stainless steel.

14. A method of treating atrial fibrillation in a patient comprising:

10 diagnosing the presence of an atrial fibrillation in said patient;

deciding that said atrial fibrillation is caused by electrical activity in tissue associated with a pulmonary vein of the patient; and

15 deploying a therapeutic device comprising a stent into the pulmonary vein;

maintaining said device in said pulmonary vein so as to treat said atrial fibrillation.

15. A method of treating atrial fibrillation in a patient
20 comprising:

assessing electrical activity of said patient's heart;

determining the presence of an atrial fibrillation;

determining that said atrial fibrillation is caused by
electrical activity in tissue associated with a pulmonary
25 vein of the patient; and

deploying a therapeutic device comprising an endoprosthesis into the pulmonary vein; and,

retaining said device in said pulmonary vein so as to treat said atrial fibrillation.

5 16. A method of treating atrial fibrillation in a patient, said method comprising the step of:

evaluating the electrical activity of a patient's heart;

evaluating the likelihood of an existence of an atrial fibrillation in said heart;

10 concluding said likelihood of said atrial fibrillation is caused by electrical activity in a pulmonary vein of the patient; and

15 deploying a therapeutic device into tissue of said pulmonary vein wherein said therapeutic device includes structure that causes an interruption in an electrical circuit of said pulmonary vein.

17. The method of claim 14 further comprising:

delivering the stent to a target site within the pulmonary vein; and,

20 expanding the stent within the pulmonary vein.

18. The method of claim 15 further comprising the steps of:

delivering the endoprosthesis to a target site within the pulmonary vein; and,

25 placing the endoprosthesis within the pulmonary vein do that it securely engages the wall of the pulmonary vein.

19. The method of claim 16 further comprising the steps of:

delivering the circuit interrupting structure to a target site within the pulmonary vein;

5 placing the circuit interrupting structure within the pulmonary vein so that it securely engages the wall of the pulmonary vein; and,

leaving the circuit interrupting structure within the pulmonary vein.

20. The method of claim 14, 15, 16, 17, 18 or 19 further 10 comprising the step of providing the therapeutic device with a surface comprising a low-resistivity material.

21. The method of claim 14, 15, 16, 17, 18 or 19 further comprising the step of providing the therapeutic device comprising a low-conductivity material.

15 22. The method of claim 14, 15, 16, 17, 18 or 19 further comprising delivering the therapeutic device percutaneously.

23. The method of claim 14, 15, 16, 17, 18 or 19 further comprising delivering the therapeutic device percutaneously, through the left atrium.

20 24. The method of claim 14, 15, 16, 17, 18 or 19 further comprising delivering the therapeutic device percutaneously, through the right atrium.

25 25. The method of claim 14, 15, 16, 17, 18 or 19 further comprising deploying the device at the ostium of the pulmonary vein.

26. The method of claim 14, 15, 16, 17, 18 or 19 wherein the therapeutic device has a surface comprising a metal selected from the group consisting of platinum iridium alloys, mp35n, titanium, nitinol, and stainless steel.

5 27. A method of treating cardiac arrhythmias comprising:

providing a treatment device adapted for implantation in a target site of a pulmonary vein in a patient;

delivering a device to a target site within a pulmonary vein of a patient;

10 manipulating said device to conform the shape of the target site; and

leaving said device implanted at said target site.

28. The method of claim 27, wherein the step of providing a treatment device comprises providing a treatment device in the form of a stent, endoprosthesis or circuit interrupting structure.

15 29. A method as set forth in claim 27, wherein delivering a device to a target site includes delivering said device to an ostium of a pulmonary vein.

20 30. A method as set forth in claim 29, wherein delivering a treatment device to a target site includes delivering a stent to said ostium of said pulmonary vein.

25 31. A method as set forth in claim 29, wherein delivering a treatment device to a target site includes delivering an endoprosthesis to said ostium of said pulmonary vein.

32. A method as set forth in claim 29, wherein delivering a treatment device to a target site includes delivering a circuit interrupting structure to said ostium of said pulmonary vein.

5 33. A method as set forth in claim 27, wherein delivering a treatment device to the target site includes delivering said device to a left atrium.

10 34. A method as set forth in claim 33, wherein delivering a treatment device to a target site includes delivering a stent, endoprosthesis or circuit interrupting structure to said left atrium.

35. A method as set forth in claim 27, wherein modifying the tissue makeup includes mechanically impairing at least a portion of said tissue.

15 36. A method as set forth in claim 27, further comprising the step of providing fastening appendages on the device, and engaging said fastening appendages with the target site of the pulmonary vein.

20 37. A method as set forth in claim 27 further comprising the step of providing barbs on the device, and engaging said barbs with the target site of the pulmonary vein.

38. A method as set forth in claim 27 further comprising the step of providing the therapeutic device comprising a low-conductivity material.

25 39. A method as set forth in claim 38, wherein said therapeutic agent includes a metallic surface of the device.